

# **Carl Moyer Memorial Air Quality Standards Attainment Program**

## **Stationary Agricultural Engine Replacement and/or Retrofit Funding**

### **General**

As of August 8, 2011 the Bay Area Air Quality Management District (District) will accept applications for the Carl Moyer Program on a first-come first-served basis. The purpose of the program is to provide funding to replace or retrofit heavy-duty diesel engines with lower-polluting engines and equipment.

Apply on-line at [www.baaqmd.gov/moyer](http://www.baaqmd.gov/moyer)

### **Eligible Agricultural Projects**

Eligible agricultural projects can receive up to the following CMP grant funding, covering a percentage of the total cost of the replacement engine or equipment, and installation:

1. Diesel to Diesel stationary agricultural engine replacement projects – 85% (Tier 3 and 4 only)
2. Installing ARB-Verified retrofit devices on Diesel stationary equipment – 100%
3. Certified Spark Ignition (SI) engine replacement- 85%
4. Diesel to Electric stationary engine / equipment replacement projects – 85%
5. Electric Motor New Purchase – 20%
6. Non- Engine Agricultural Use Projects - Case by Case basis

### **Who can apply?**

Owners of mobile engines and stationary and portable engines with more than 25 horsepower are eligible for grants. All vehicles and equipment funded with a grant must operate within the Air District's boundaries. **Priority will be given to projects that reduce emissions in highly impacted communities. Highest priority will be given to the following six highly impacted communities:** 1) Concord, 2) Richmond/San Pablo, 3) Western Alameda County, 4) San Jose, 5) Redwood City/East Palo Alto, and 6) Eastern San Francisco. For a Priority Community Map of highly impacted communities in the Bay Area, see: <http://www.baaqmd.gov/moyer>.

The following counties are part of the Air District's jurisdiction: Alameda, Contra Costa, Marin, San Mateo, San Francisco, Santa Clara, and Napa counties. The southern portions of Solano and Sonoma counties are also part of the Air District.

### **What can I do now, before I start my application?**

- Read the Air District Carl Moyer Program Overview Fact Sheet for rules that apply to all project types available from the Air District and online at <http://www.baaqmd.gov/moyer>.
- Understand any applicable regulations may apply to your equipment
- Start collecting information needed for your application.
- Contact your engine or equipment dealer to discuss possibilities for your equipment.
- Review the California Air Resources Board (ARB) 2008 Carl Moyer Program Guidelines Chapter Ten "Agricultural Sources". The Guidelines are on the ARB webpage <http://www.arb.ca.gov/msprog/moyer/moyer.htm>.
- Contact the Air District with any additional questions.

If you have any questions regarding this program or the application process, please contact Stacy Shull by phone at **(415) 749-4955** or by e-mail at: [sshull@baaqmd.gov](mailto:sshull@baaqmd.gov)

# Carl Moyer Program AGRICULTURE

## Quick-Reference Guide

For questions or more information, please contact Stacy Shull, Grant Analyst for CMP marine,  
[sshull@baaqmd.gov](mailto:sshull@baaqmd.gov) or 415-749-4955

Eligible Projects and Costs	
<b>Eligible Agricultural Equipment</b>	<ul style="list-style-type: none"> <li>– In-Use Stationary and Portable diesel engines 25 hp and greater</li> <li>– Diesel Engines 50 hp and greater must be registered with the BAAQMD in order to be eligible for funding. <b>Register engines here:</b>  <a href="http://www.baaqmd.gov/ag_diesel">http://www.baaqmd.gov/ag_diesel</a></li> <li>– Limited use stationary compression ignition (diesel) engines qualifying for an alternative compliance plan under Regulation 11 Rule 17. Contact Guy Gimlen for more details 415 749-4734</li> </ul>
<b>Eligible Agricultural Projects</b>	<ul style="list-style-type: none"> <li>– Repower: Replace In Use engine with <ul style="list-style-type: none"> <li>o New Electric Motors</li> <li>o New diesel engine that meets applicable emission standards</li> <li>o New Spark-Ignited engine that meets applicable emission standards</li> </ul> </li> <li>– Retrofit: Retrofit devices include selective catalytic reduction devices, diesel oxidation catalysts or diesel particulate filters</li> <li>– New Equipment Purchase</li> </ul>
<b>Eligible Agricultural Costs</b>	<ul style="list-style-type: none"> <li>– The capital cost of the new engine.</li> <li>– Tax and transport for eligible parts or costs.</li> <li>– Labor for installation of or modification to parts eligible for funding.</li> </ul> <p><b>Electric Motors and Equipment:</b></p> <ul style="list-style-type: none"> <li>– Capital cost of new motor</li> <li>– Peripheral equipment associated with electric motor projects (control panel, motor leads, service pole with guy wire, connecting electric line from the meter)</li> <li>– New Electric Equipment costs</li> </ul>
Project Requirements	
<b>Minimum project life and contract term</b>	At least 1 year for engines subject to the Stationary Diesel Engine Air Toxic Control Measure (ATCM). If a longer project life is feasible (ex: low usage engines that qualify for alternative compliance plan), the minimum project life should be 3 years.
<b>Surplus Emission Reductions</b>	The project must be complete (engine installed and operational) at least 1 year prior to the associated ATCM compliance date or within three years of the ARB rule adoption date. See table 10-2 and 10-3 for compliance schedule
<b>What if I can't replace my engine 1 year before the ATCM compliance date?</b>	Still Apply! The District has an Agricultural Assistance program to help those that need longer project lives to achieve cost effective projects or can't meet the 1 year surplus requirement.
<b>Carl Moyer program pays for a percentage of project costs</b>	<ul style="list-style-type: none"> <li>– Tier 3 and 4 Repower – 85 percent</li> <li>– Certified SI engine Repower – 85 percent</li> <li>– Electric motor repower – 85 percent</li> <li>– Electric motor new purchase – 20 percent</li> <li>– Retrofit device – 100 percent</li> </ul>
<b>Cost-effectiveness</b>	Projects must meet a cost-effectiveness of \$16,640 per weighted ton of NOx, ROG and PM10 reduced to be eligible
<b>Area of activity and required hour meter</b>	<ul style="list-style-type: none"> <li>– Must be operated within the Districts boundaries</li> <li>– All operation hours must be tracked by a functioning hour meter</li> </ul>
New Engine Emission Requirements (ATCM)	

<b>Agricultural In-Use Stationary Diesel Air Toxic Control Measure (ATCM)</b>	<p>The ATCM requires the replacement or retrofit of older in-use diesel engines with cleaner burning models over a period of 3 to 12 years. The compliance date is dependent upon the size of the Tier of the engine.</p> <ul style="list-style-type: none"> <li>– In-Use uncontrolled engines have the earliest compliance date</li> <li>– All new engines 50 hp and greater must certify to meet U.S. EPA Tier 3 or cleaner emission standards</li> <li>– <b>Engines less than 50 hp do not need to meet emission standards</b></li> </ul>
<b>Do I qualify for Low Usage Alternative Compliance Plan?</b>	<p><b>Air District Regulation 11, Rule 17</b></p> <p>The Air District’s new rule was adopted to provide an extension of the State regulation’s compliance deadlines for certain low-use agricultural engines, while achieving greater emissions reductions in the long-term. Regulation 11, Rule 17 provides an Alternate Compliance Plan for low-use agricultural diesel engines. The Alternate Compliance Plan will:</p> <ul style="list-style-type: none"> <li>– For Tier 0 and Tier 1 engines, extend the compliance deadline to December 31, 2020</li> <li>– For Tier 2 engines, extend the compliance deadline to December 31, 2025</li> <li>– Require that each Tier 0, Tier 1, or Tier 2 engine be replaced with an engine meeting Tier 4 emissions standards, or the lowest emissions engine available at the time of replacement.</li> </ul> <p>You must apply and qualify for the Alternate Compliance Plan (<b>by December 31<sup>st</sup> 2011</b>) to be subject to the extended compliance deadlines. To qualify for the Alternate Compliance Plan, an engine must:</p> <ul style="list-style-type: none"> <li>– Be used exclusively for an agricultural operation</li> <li>– Be registered in the Air District’s Agricultural Diesel Engine Registration Program</li> <li>– Be equipped with a non-resettable hour meter</li> <li>– Be used less than 100 hours per (one-year) registration renewal period averaged over any consecutive three registration renewal periods, and must not exceed 150 hours in any registration renewal period</li> <li>– Be located more than 1,000 feet from housing, schools or health care facilities, OR conduct a Health Risk Screening Analysis to demonstrate that site-specific and cumulative cancer risks and PM2.5 ground level concentrations meet required limits</li> </ul>
<b>Engine Registration Requirements</b>	<p>State regulations require that owners and operators of existing agricultural diesel engines rated at greater than <b>50 hp</b>, register their engines with the Air District by March 1, 2008. Register your engines here <a href="http://www.baaqmd.gov/ag_diesel">www.baaqmd.gov/ag_diesel</a>.</p>

<p><b>Table 1</b></p> <p><b>What Tier is my engine?</b></p>	<table><tr><th>Engine Power (hp)</th><th>Manufacture Year</th><th>Tier</th></tr><tr><td rowspan="3"><math>50 \geq \text{hp} &lt; 75</math></td><td>Pre 1998</td><td>Tier 0</td></tr><tr><td>1998<sup>2</sup> - 2003</td><td>Tier 1</td></tr><tr><td>2004 - 2007</td><td>Tier 2</td></tr><tr><td rowspan="3"><math>75 \geq \text{hp} &lt; 100</math></td><td>Pre 1998</td><td>Tier 0</td></tr><tr><td>1998<sup>2</sup> - 2003</td><td>Tier 1</td></tr><tr><td>2004 - 2007</td><td>Tier 2</td></tr><tr><td rowspan="3"><math>100 \geq \text{hp} &lt; 175</math></td><td>Pre 1997</td><td>Tier 0</td></tr><tr><td>1997<sup>2</sup> - 2002</td><td>Tier 1</td></tr><tr><td>2003 - 2006</td><td>Tier 2</td></tr><tr><td rowspan="3"><math>175 \geq \text{hp} &lt; 300</math></td><td>Pre 1996</td><td>Tier 0</td></tr><tr><td>1996<sup>2</sup> - 2002</td><td>Tier 1</td></tr><tr><td>2003 - 2005</td><td>Tier 2</td></tr><tr><td rowspan="3"><math>300 \geq \text{hp} &lt; 600</math></td><td>Pre 1996</td><td>Tier 0</td></tr><tr><td>1996<sup>2</sup> - 2000</td><td>Tier 1</td></tr><tr><td>2001 - 2005</td><td>Tier 2</td></tr><tr><td rowspan="3"><math>600 \geq \text{hp} \leq 750</math></td><td>Pre 1996</td><td>Tier 0</td></tr><tr><td>1996<sup>2</sup> - 2001</td><td>Tier 1</td></tr><tr><td>2002 - 2005</td><td>Tier 2</td></tr><tr><td rowspan="3"><math>\text{hp} &gt; 750</math></td><td>Pre 2000</td><td>Tier 0</td></tr><tr><td>2000<sup>2</sup> - 2005</td><td>Tier 1</td></tr><tr><td>2006 - 2010</td><td>Tier 2</td></tr></table>	Engine Power (hp)	Manufacture Year	Tier	$50 \geq \text{hp} < 75$	Pre 1998	Tier 0	1998 <sup>2</sup> - 2003	Tier 1	2004 - 2007	Tier 2	$75 \geq \text{hp} < 100$	Pre 1998	Tier 0	1998 <sup>2</sup> - 2003	Tier 1	2004 - 2007	Tier 2	$100 \geq \text{hp} < 175$	Pre 1997	Tier 0	1997 <sup>2</sup> - 2002	Tier 1	2003 - 2006	Tier 2	$175 \geq \text{hp} < 300$	Pre 1996	Tier 0	1996 <sup>2</sup> - 2002	Tier 1	2003 - 2005	Tier 2	$300 \geq \text{hp} < 600$	Pre 1996	Tier 0	1996 <sup>2</sup> - 2000	Tier 1	2001 - 2005	Tier 2	$600 \geq \text{hp} \leq 750$	Pre 1996	Tier 0	1996 <sup>2</sup> - 2001	Tier 1	2002 - 2005	Tier 2	$\text{hp} > 750$	Pre 2000	Tier 0	2000 <sup>2</sup> - 2005	Tier 1	2006 - 2010	Tier 2
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<p><b>When do I need to replace my engine?</b></p> <p>(please note that this compliance schedule applies to all engines that <u>do not</u> qualify for a low usage alternative compliance plans or do not apply for the extension by the deadline (December 31, 2011))</p>	<p><b>Table 10-2</b></p> <p><b>Non-certified In-Use Stationary Diesel Agricultural Engine Emission Limits</b></p> <table><tr><th>Horsepower Range</th><th>Compliance Date</th><th>Diesel PM Not to Exceed (g/bhp-hr)</th><th>Off-Road CI certification Standard</th></tr><tr><td>&gt; 50 to 99 hp</td><td>December 31, 2011</td><td>0.30</td><td>Tier 3 or Interim Tier 4</td></tr><tr><td>100 to 174 hp</td><td>December 31, 2010</td><td>0.22</td><td>Tier 3</td></tr><tr><td>175 to 750 hp</td><td>December 31, 2010</td><td>0.15</td><td>Tier 3</td></tr><tr><td>&gt; 750 hp</td><td>December 31, 2014</td><td>0.075</td><td>Tier 4</td></tr></table> <p><b>Table 10-3</b></p> <p><b>Tier 1 and Tier 2-certified In-Use Stationary Diesel Agricultural Engine Emission Limits</b></p> <table><tr><th>Horsepower Range</th><th>Compliance Date</th><th>Diesel PM Not to Exceed (g/bhp-hr)</th><th>Off-Road CI certification Standard</th></tr><tr><td>&gt; 50 to 75 hp</td><td>December 31, 2015*</td><td>0.02</td><td>Tier 4</td></tr><tr><td>75 to 174 hp</td><td>December 31, 2015*</td><td>0.01</td><td>Tier 4</td></tr><tr><td>175 to 750 hp</td><td>December 31, 2014*</td><td>0.01</td><td>Tier 4</td></tr><tr><td>&gt; 750 hp</td><td>December 31, 2014*</td><td>0.075</td><td>Tier 4</td></tr></table> <p>* Or 12 years after the date of initial installation, whichever is later</p>	Horsepower Range	Compliance Date	Diesel PM Not to Exceed (g/bhp-hr)	Off-Road CI certification Standard	> 50 to 99 hp	December 31, 2011	0.30	Tier 3 or Interim Tier 4	100 to 174 hp	December 31, 2010	0.22	Tier 3	175 to 750 hp	December 31, 2010	0.15	Tier 3	> 750 hp	December 31, 2014	0.075	Tier 4	Horsepower Range	Compliance Date	Diesel PM Not to Exceed (g/bhp-hr)	Off-Road CI certification Standard	> 50 to 75 hp	December 31, 2015*	0.02	Tier 4	75 to 174 hp	December 31, 2015*	0.01	Tier 4	175 to 750 hp	December 31, 2014*	0.01	Tier 4	> 750 hp	December 31, 2014*	0.075	Tier 4												
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